

**Case 3471*****Heterolaophonte* Lang, 1948 (Crustacea, Copepoda, Harpacticoida): proposed precedence over *Mesolaophonte* Nicholls, 1941 and *Monolaophonte* Nicholls, 1941**

Rony Huys

*Department of Zoology, The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: rjh@nhm.ac.uk)*

**Abstract.** The purpose of this application, under Articles 23.9.3 and 81.2.3 of the Code, is to conserve the generic name *Heterolaophonte* Lang, 1948 for a group of marine harpacticoid copepods (family LAOPHONTIDAE) by giving it precedence over the unused senior names *Mesolaophonte* Nicholls, 1941 and *Monolaophonte* Nicholls, 1941 whenever these names are considered to be synonyms.

**Keywords.** Nomenclature; taxonomy; Copepoda; Harpacticoida; LAOPHONTIDAE; *Heterolaophonte*; *Mesolaophonte*; *Monolaophonte*; *Heterolaophonte stroemii*; harpacticoid copepod; cosmopolitan.

1. In his revision of the harpacticoid copepod family LAOPHONTIDAE Scott, 1905, Nicholls (1941, p. 98) divided the type genus *Laophonte* Philippi, 1840 into five subgenera: *Laophonte* Philippi, 1840 (type species *Laophonte cornuta* Philippi, 1840 by monotypy), *Mesolaophonte* Nicholls, 1941 (type species *Laophonte littoralis* Scott & Scott, 1893 by original designation), *Metalaophonte* Nicholls, 1941 (type species *Laophonte depressa* Scott, 1894 by original designation), *Monolaophonte* Nicholls, 1941 (type species *Laophonte curvata* Douwe, 1929 by monotypy) and *Neolaophonte* Nicholls, 1941 (type species *Laophonte trilobata* Willey, 1929 by original designation).

2. Lang (1944, p. 34) established the genus *Heterolaophonte* (family LAOPHONTIDAE) but no type species was fixed. Lang (1944) divided the genus into seven species-groups and designated a 'Typus' for each: (1) *stroemii*-group (spelled by Lang as *strömi*) (typified by *Cyclops stroemii* Baird, 1837) (spelled by Lang as *strömi*), (2) *minuta*-group (typified by *Laophonte minuta* Boeck, 1873), (3) *littoralis*-group (typified by *Laophonte littoralis* Scott & Scott, 1893), (4) *quinespinosa*-group (typified by *Laophonte quinespinosa* Sewell, 1924), (5) *discophora*-group (typified by *Laophonte discophora* Willey, 1929), (6) *campbelliensis*-group (typified by *Laophonte campbelliensis* Lang, 1934) and (7) *tenuispina*-group (typified by *Laophonte tenuispina* Lang, 1934). Wells et al. (1982, p. 178) proposed a new genus *Quinquelaophonte* Wells, Hicks & Coull, 1982 (type species by original designation *Laophonte quinespinosa* Sewell, 1924) for the species of the *quinespinosa*-group. Nowadays, Lang's other species-groups are no longer recognised as taxonomically useful units (Wells, 2007, p. 85).

3. Many of the names and nomenclatural acts proposed by Lang (1948) originated in his 1944 preamble to his monograph. Lang's (1944) paper was not widely disseminated (but nevertheless satisfied the criteria of publication) and most



post-1948 authors have ignored it or were not aware of its existence. Recent workers (e.g. Wells & Rao, 1987; Huys, 1990, 1992; Huys & Willems, 1989; Huys & Conroy-Dalton, 1996; Bodin, 1997; Seifried, 2003; Wells, 2007) have begun to credit Lang (1944) with the authorship of the respective names and acts but it has remained unnoticed that some genus-group names, such as *Heterolaophonte*, were not explicitly made available by that work (Article 13.3 of the Code). As pointed out by Vervoort (1964, p. 333), Lang (1948, p. 1368) formally designated *Cyclops stroemii* Baird, 1837 as the type species of *Heterolaophonte* and hence the authorship and date of the genus-group name *Heterolaophonte* should be attributed to Lang (1948). Vervoort & Holthuis (1983, p. 56) subsequently pointed out that Norman (1903, p. 368) had already designated *Cyclops stroemii* as the type species of *Dactylopusia* Norman, 1903 (family DACTYLOPUSIIDAE) (a new replacement name for *Dactylopus* Claus, 1863 *non* Gill, 1860). Since Norman (1903), when designating *Cyclops stroemii* as the type species of *Dactylopusia*, had intended the dactylopusiid species identified by Claus (1863, p. 126, Plate XVI, Figs. 1–6) as such and not the real *Cyclops stroemii*, Vervoort & Holthuis (1983) asked the Commission to use its plenary power to set aside all previous type fixations made for *Dactylopusia* Claus, 1863 and to designate *Dactylopus tisboides* Claus, 1863 as type species. The Commission voted in favour of Vervoort & Holthuis's (1983) application and, as a result, the generic name *Heterolaophonte* Lang, 1948 and the specific name *Cyclops stroemii* Baird, 1837 (type species of *Heterolaophonte* Lang, 1948) were placed on the Official Lists of Generic and Specific Names in Zoology, respectively (Opinion 1356, December 1985, BZN 42(4): 335–337). Since Baird (1837, p. 330) had named the species after the prominent Norwegian zoologist Hans Ström (also spelled Strøm), under Article 32.5.2.1 the correct spelling is *stromii* as originally proposed by Baird (1837). It should, however, be noted that Vervoort & Holthuis (1983, p. 56) had changed the spelling of *stromii* to *stroemii*, and the latter spelling was accepted by the Commission. In order to ensure consistency with the ruling in Opinion 1356 the incorrect subsequent spelling *stroemii* is to be preserved unaltered and no Official Correction (Article 80.4) is required. Some authors (Apostolov & Marinov, 1988; Bodin, 1997; Wells, 2007) have also erroneously attributed *Cyclops stroemii* to Baird (1834) but that paper only quoted the species as *Cyclops brevicornis* O.F. Müller, 1776 (p. 97) as which it had originally, but incorrectly, been identified. The original description of *Cyclops stroemii* (as '*Cyclops Stromii*') was given in Baird (1837, p. 330).

4. Since Lang (1948) assigned both *Laophonte littoralis* Scott & Scott, 1893 (spelled incorrectly by Scott & Scott (1893, p. 238) as *littorale*) (type species of *Mesolaophonte* Nicholls, 1941) and *Laophonte curvata* Douwe, 1929 (type species of *Monolaophonte* Nicholls, 1941) to the genus *Heterolaophonte*, the genus-group names *Mesolaophonte* and *Monolaophonte* are currently senior subjective synonyms of *Heterolaophonte*. Nicholls's (1941) subgeneric division was based solely on the endopodal armature of the female third pair of swimming legs and his system has been criticised for its artificiality by Lang (1948, p. 1620) and Vervoort (1964, p. 314). Both authors abolished Nicholls's subgenera but they were not formally synonymised with or subsumed within existing genera in prevailing usage. Since *Mesolaophonte* Nicholls, 1941 and *Monolaophonte* Nicholls, 1941 are perfectly legitimate and available names, they cannot be ignored. The subgeneric name *Mesolaophonte* has only been used twice as a valid name since Lang (1948). Krishnaswamy (1959) assigned his new



species *Laophonte pseudoculata* Krishnaswamy, 1959 (spelled by Krishnaswamy (1959, p.29) as *pseudo-oculata*) to *Laophonte* (*Mesolaophonte*) and Raibaut (1962) suggested a similar subgeneric assignment for *Laophonte commensalis* Raibaut, 1962. *Heterolaophonte* is one of the three most speciose genera in the LAOPHONTIDAE (the others being *Laophonte* Philippi, 1840 and *Paralaophonte* Lang, 1948), currently accommodating 33 valid species and 3 subspecies (Wells, 2007; Varela & Ortiz, 2008), and has been recorded from all oceanic basins including the Antarctic Ocean (Apostolov & Pandourski, 2001). Papers referring to *Heterolaophonte* include studies focussing on taxonomy (e.g. Lang, 1965; Hicks, 1975; Mielke, 1975, 1981; Willen, 1992), ontogeny (Dahms, 1989, 1990, 1993), ultrastructure (Hosfeld, 1994), seasonality and reproduction (e.g. Johnson & Scheibling, 1986; Rao & Sarma, 1994; Chertoprud & Azovsky, 2006), feeding (Azovsky et al., 2005), vertical migration (Walters, 1988), dispersal (Ólafsson et al., 2001; Thiel & Gutow, 2005), community structure (e.g. Hartzband & Hummon, 1973; Hicks, 1980; Hockin, 1982; Jarvis & Seed, 1996; Gheerardyn et al., 2008) and symbiotic relationships with other invertebrates (Boer, 1971; Dumitrescu & Marcus, 1967; Varela & Ortiz, 2008) and epibiotic microorganisms (Hockin, 1984; Carman & Dobbs, 1998). A list of 110 selected references by 72 authors published in the last 50 years demonstrating the wide usage of the name *Heterolaophonte* Lang, 1948 is held by the Commission Secretariat. The replacement of the well-known and universally accepted name *Heterolaophonte* Lang, 1948 by one of its two underused senior subjective synonyms would result in many new combinations and undue confusion in the nomenclature and taxonomy of the LAOPHONTIDAE in general, and of its most speciose genus in particular. Unfortunately, since the conditions of Article 23.9.1 are not met (the senior synonyms have been used as valid names after 1899), reversal of precedence is only possible by a Commission's ruling (Article 23.9.3). To promote stability it is proposed to give the name *Heterolaophonte* Lang, 1948 precedence (Article 81.2.3) over both *Mesolaophonte* Nicholls, 1941 and *Monolaophonte* Nicholls, 1941 whenever these names are considered synonyms. However if, in the light of future revisions, *Heterolaophonte* is found not to be congeneric with *Mesolaophonte* and/or *Monolaophonte* both senior genus-group names are still available to denote the two taxa as originally proposed by Nicholls (1941).

5. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to give the generic name *Heterolaophonte* Lang, 1948 precedence over the names *Mesolaophonte* Nicholls, 1941 and *Monolaophonte* Nicholls, 1941, whenever it and either of the other two are considered to be synonyms;
- (2) to emend the entry on the Official List of Generic Names in Zoology for *Heterolaophonte* Lang, 1948 (gender: feminine), type species by original designation, *Cyclops stroemii* Baird, 1837, to record that it is to be given precedence over the names *Mesolaophonte* Nicholls, 1941 and *Monolaophonte* Nicholls, 1941, whenever it and either of the other two are considered to be synonyms;
- (3) to place on the Official List of Generic Names in Zoology the following names:
  - (a) *Mesolaophonte* Nicholls, 1941 (gender: feminine), type species by original designation *Laophonte littoralis* Scott & Scott, 1893, with the endorsement



- that it is not to be given precedence over the name *Heterolaophonte* Lang, 1948 whenever the two names are considered to be synonyms;
- (b) *Monolaophonte* Nicholls, 1941 (gender: feminine), type species by monotypy *Laophonte curvata* Douwe, 1929, with the endorsement that it is not to be given precedence over the name *Heterolaophonte* Lang, 1948 whenever the two names are considered to be synonyms;
- (4) to place on the Official List of Specific Names in Zoology the following names:
- (a) *littoralis* Scott & Scott, 1893, as published in the binomen *Laophonte littoralis* (specific name of the type species of *Mesolaophonte* Nicholls, 1941);
- (b) *curvata* Douwe, 1929, as published in the binomen *Laophonte curvata* (specific name of the type species of *Monolaophonte* Nicholls, 1941).

## References

- Apostolov, A. & Marinov, T.M. 1988. Copepoda Harpacticoida (morski kharpaktikoidi). [Copepoda, Harpacticoida (marine harpacticoids)]. *Fauna Bolgarii [Fauna Bulgarica]*, **18**: 1–384.
- Apostolov, A. & Pandourski, I. 2001. *Heterolaophonte livingstoni* sp. n. (Crustacea, Copepoda, Harpacticoida) de la zone littorale de l'île de Livingstone, Antarctique. *Annali del Museo Civico di Storia Naturale "Giacomo Doria" Genova*, **93**: 239–252.
- Azovsky, A.I., Saburova, M.A., Chertoprud, E.S. & Polikarpov, I.G. 2005. Selective feeding of littoral harpacticoids on diatom algae: hungry gourmands? *Marine Biology*, **148**(2): 327–337.
- Baird, W. 1834. List of Entomostraca found in Berwickshire. *History of the Berwickshire Naturalists' Club*, **1**: 95–100.
- Baird, W. 1837. The natural history of the British Entomostraca. *Magazine of Zoology and Botany*, **1**: 35–41, 309–333, 514–526.
- Bodin, P. 1997. Catalogue of the new marine harpacticoid copepods (1997 edition). *Documents de Travail, Institut Royal des Sciences Naturelles de Belgique*, **89**: 1–304.
- Boeck, A. 1873. Nye Slaegter og Arter af Saltvands-Copepoder. *Forhandlinger i Videnskabs-selskabet i Kristiania*, **1872**: 35–60.
- Boer, P. 1971. Harpacticid copepods (Crustacea) living in wood infested by *Limnoria* from northwestern France. *Bulletin/Zoologisch Museum, Universiteit van Amsterdam*, **2**(8): 63–72.
- Carman, K.R. & Dobbs, F.C. 1998. Epibiotic microorganisms on copepods and other marine crustaceans. *Microscopy Research and Technique*, **37**(2): 116–135.
- Chertoprud, E.S. & Azovsky, A.I. 2006. Seasonal dynamics of the populations of intertidal harpacticoids (Harpacticoida: Copepoda) in the White Sea. *Oceanology*, **46**(1): 71–80.
- Claus, C. 1863. *Die freilebenden Copepoden mit besonderer Berücksichtigung der Fauna Deutschlands, der Nordsee und des Mittelmeeres*. 230 pp. Wilhelm Engelmann, Leipzig.
- Dahms, H.-U. 1989. Antennule development during copepodite phase of some representatives of Harpacticoida (Copepoda, Crustacea). *Bijdragen tot de Dierkunde*, **59**(3): 159–189.
- Dahms, H.-U. 1990. Naupliar development of Harpacticoida (Crustacea, Copepoda) and its significance for phylogenetic systematics. *Microfauna Marina*, **6**: 169–272.
- Dahms, H.-U. 1993. Copepodid development in Harpacticoida (Crustacea, Copepoda). *Microfauna Marina*, **8**: 195–245.
- Dumitrescu, E. & Marcus, A. 1967. Un cas intéressant d'association écologique entre *Grubea clavata* (Claparède) (Polychaeta) et *Heterolaophonte strömi paraminuta* Noodt (Harpacticoida). *Travaux du Muséum d'Histoire Naturelle "Grigore Antipa"*, **7**: 23–28.
- Gheerardyn, H., De Troch, M., Ndarro, S.G.M., Raes, M., Vincx, M. & Vanreusel, A. 2008. Community structure and microhabitat preferences of harpacticoid copepods in a tropical reef lagoon (Zanzibar Island Tanzania). *Journal of the Marine Biological Association of the United Kingdom*, **88**(4): 747–758.



- Hartzband, D.J. & Hummon, W.D.** 1973. Sub-community structure in subtidal meiobenthic Harpacticoida. *Oecologia*, **14**(1–2): 37–51.
- Hicks, G.R.F.** 1975. A new species of *Heterolaophonte* Lang 1948 (Copepoda: Harpacticoida) from Blakeney Point, Norfolk, U.K. *Norwegian Journal of Zoology*, **23**(2): 141–147.
- Hicks, G.R.F.** 1980. Structure of phytal harpacticoid copepod assemblages and the influence of habitat complexity and turbidity. *Journal of experimental marine Biology and Ecology*, **44**(2–3): 157–192.
- Hockin, D.C.** 1982. The effects of sediment particle diameter upon the meiobenthic copepod community of an intertidal beach: a field and a laboratory experiment. *Journal of animal Ecology*, **51**(2): 555–572.
- Hockin, D.C.** 1984. Records of symbiotic Protozoa from harpacticoid copepods of a sandy beach. *Crustaceana*, **46**(3): 319–320.
- Hosfeld, B.** 1994. On sperm ultrastructure, spermiogenesis and the spermatophore of *Heterolaophonte minuta* (Copepoda, Harpacticoida). *Zoomorphology*, **114**: 195–202.
- Huys, R.** 1990. Amsterdam Expeditions to the West Indian Islands, Report 64. A new family of harpacticoid copepods and an analysis of the phylogenetic relationships within the Laophontoidea T. Scott. *Bijdragen tot de Dierkunde*, **60**(2): 79–120.
- Huys, R.** 1992. The amphiatlantic distribution of *Leptastacus macronyx* (T. Scott, 1892) (Copepoda: Harpacticoida): a paradigm of taxonomic confusion, and a cladistic approach to the classification of the Leptastacidae Lang, 1948. *Mededelingen van de Koninklijke Academie voor Wetenschappen, Letteren and Schone Kunsten van België*, **54**(4): 21–196.
- Huys, R. & Conroy-Dalton, S.** 1996. A revision of *Leptopontia* T. Scott (Copepoda: Harpacticoida) with description of six new species. *Zoological Journal of the Linnean Society*, **118**: 197–239.
- Huys, R. & Willems, K.A.** 1989. *Laophontopsis* Sars and the taxonomic concept of the Normanellinae (Copepoda: Harpacticoida): A revision. *Bijdragen tot de Dierkunde*, **59**(4): 203–227.
- Jarvis, S.C. & Seed, R.** 1996. The meiofauna of *Ascophyllum nodosum* (L.) Le Jolis: characterization of the assemblages associated with two common epiphytes. *Journal of experimental marine Biology and Ecology*, **199**: 249–267.
- Johnson, S.C. & Scheibling, R.E.** 1986. Reproductive patterns of harpacticoid copepods on intertidal macroalgae (*Ascophyllum nodosum* and *Fucus vesiculosus*) in Nova Scotia, Canada. *Canadian Journal of Zoology*, **65**: 129–141.
- Krishnaswamy, S.** 1959. On a new species of *Laophonte* (Copepoda Harpacticoida) from Madras. *Records of the Indian Museum*, **54**: 29–32.
- Lang, K.** 1934. Marine Harpacticiden von der Campbell-Insel und einigen anderen südlichen Inseln. *Acta Universitatis lundensis, n. ser., Avd. 2*, **30**(14): 1–56.
- Lang, K.** 1944. *Monographie der Harpacticiden (Vorläufige Mitteilung)*. 39 pp. Almqvist & Wiksells Boktryckeri Ab, Uppsala.
- Lang, K.** 1948. *Monographie der Harpacticiden*. 1682 pp. (2 volumes). Håkan Ohlsson, Lund.
- Mielke, W.** 1975. Systematik der Copepoda eines Sandstrandes der Nordseeinsel Sylt. *Mikrofauna des Meeresbodens*, **52**: 1–134.
- Mielke, W.** 1981. Interstitielle Fauna von Galapagos. XXVIII. Laophontinae (Laophontidae), Ancorabolidae (Harpacticoida). *Mikrofauna des Meeresbodens*, **84**: 1–106.
- Müller, O.F.** 1776. *Zoologiae Danicae Prodromus, seu Animalium Daniae et Norvegiae indigenarum characteres, nomina et synonyma imprimis popularium*. xxxii, 274 pp. M. Hallager, Havniae.
- Nicholls, A.G.** 1941. A revision of the families Diosaccidae Sars, 1906 and Laophontidae T. Scott, 1905 (Copepoda, Harpacticoida). *Records of the South Australian Museum*, **7**(1): 65–110.
- Norman, A.M.** 1903. New generic names for some Entomostraca and Cirripedia. *Annals and Magazine of Natural History*, (7)**11**: 367–369.
- Ólafsson, E., Ingólfsson, A. & Steinarsdóttir, M.B.** 2001. Harpacticoid copepod communities of floating seaweed: controlling factors and implications for dispersal. *Hydrobiologia*, **453/454**: 189–200.



- Philippi, A.** 1840. Zoologische Bemerkungen (Fortsetzung). IV. Kurze Charakteristik mehrerer neuer Genera aus der Familie der Copepoden. *Archiv für Naturgeschichte*, **6**(1): 188–190.
- Raibaut, A.** 1962. Un Harpacticoïde (Copepoda) commensal des *Xantho* (Decapoda). *Compte Rendu du Congrès de Sociétés Savants de Paris et des Départements. Section des. Sciences*, **86**: 623–629.
- Rao, D.G. & Sarma, A.L.N.** 1994. Seasonal abundance and breeding cycles of meiobenthic copepods at Parikud Island in Chilka Lagoon (Bay of Bengal). *Indian Journal of Marine Sciences*, **23**(4): 217–220.
- Seifried, S.** 2003. *Phylogeny of Harpacticoida (Copepoda): Revision of “Maxillipedasphalea” and Exanechentera*. 259 pp. Cuvillier Verlag, Göttingen.
- Scott, T.** 1894. Additions to the fauna of the Firth of Forth. Part VI. *Reports of the Fishery Board for Scotland*, **12**(3): 231–271.
- Scott, T. & Scott, A.** 1893. On some new or rare Crustacea from Scotland. *Annals and Magazine of Natural History*, (6)**12**: 237–246.
- Sewell, R.B.S.** 1924. Crustacea Copepoda. In: *Fauna of Chilka Lake. Memoirs of the Indian Museum*, **5**: 771–852.
- Thiel, M. & Gutow, L.** 2005. The ecology of rafting in the marine environment. II. The rafting organisms and community. *Oceanography and Marine Biology: Annual Review*, **43**: 279–418.
- Varela, C. & Ortiz, M.** 2008. Especie nueva de *Heterolaophonte* (Copepoda: Harpacticoida: Laophontidae) para Cuba. *Solenodon*, **7**: 1–6.
- Vervoort, W.** 1964. Freelifving Copepoda from Ifaluk Atoll in the Caroline Islands with notes on related species. *Bulletin of the United States National Museum*, **236**: i–ix, 1–431.
- Vervoort, W. & Holthuis, L.B.** 1983. *Dactylopusia* Norman, 1903 (Crustacea, Copepoda): proposed designation of type species. Z.N.(S.)1517. *Bulletin of Zoological Nomenclature*, **40**(1): 56–57.
- Wells, J.B.J.** 2007. An annotated checklist and keys to the species of Copepoda Harpacticoida (Crustacea). *Zootaxa*, **1568**: 1–872.
- Wells, J.B.J., Hicks, G.R.F. & Coull, B.C.** 1982. Common harpacticoid copepods from New Zealand harbours and estuaries. *New Zealand Journal of Zoology*, **9**(2): 151–184.
- Wells, J.B.J. & Rao, G.C.** 1987. Littoral Harpacticoida (Crustacea: Copepoda) from Andaman and Nicobar Islands. *Memoirs of the Zoological Survey of India*, **16**(4): 1–385.
- Willen, E.** 1992. Nachbeschreibung von *Heterolaophonte minuta* (Boeck, 1872) (Copepoda, Harpacticoida) und Bemerkungen zur systematischen Stellung sowie zur Biologie der Art. *Drosera*, **1992**(2): 139–153.
- Willey, A.** 1929. Notes on the distribution of free-living Copepoda in Canadian waters. Part II. Some intertidal harpacticoids from St. Andrews, New Brunswick. *Contributions to Canadian Biology and Fisheries, New Series*, **4**(33): 527–539.

Acknowledgement of receipt of this application was published in BZN **65**: 162.

---

Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).